

## IMPORTANCE OF WATER STORAGE.

The problem of properly conserving and utilizing the water resources of a country is neither new nor novel. The great hydro-electric development in Canada requires strict control and present conditions cannot be adequately dealt with by the legislation and the ideas of twenty years ago. The water-power wealth of Canada is one of the principal assets of the country and it is most urgent that not only the governments but also individuals interested in water-power schemes should recognize the importance of expert regulation and control of our streams. Water conservation and storage has ceased to be looked upon as a sentimental idea only, and its immediate economic value has become clearly recognized.

Every cubic foot of water, as it passes over falls and rapids in large and small streams on its journey to the sea, has an element of power which is lost forever if not used at the time of its passage. All have noted the difference between the enormous volume of water rushing down our streams during the spring floods and the much diminished flow at the end of summer, which in the majority of our streams, is further reduced during the winter months. Most water-power enterprises have been planned to utilize only this low, winter flow and allow the large additional volume available at other times to pass without obtaining a single horse-power of useful work from it, thus utilizing the full amount of power only during four months in the year. For comparison and to furnish an idea of the amount of power going to waste during the remaining eight months, it may be stated that one cubic foot of water per second passing over a ten-foot fall during the remaining period represents 14 tons of coal during that period.

A similar illustration is given by considering the waste at points where water-power is being used. With the exception of Niagara and the St. Lawrence River, whose flow is exceptionally well regulated by nature, the average yearly flow of our streams is from two to ten times their minimum flow. As, in most cases, developments provide only for the minimum flow of streams, it follows that the water wasted is from one to nine times that used. Taking the lowest figure, that is, assuming that the power wasted is equal to the power used, and taking the total power developed in Canada exclusive of Niagara and the St. Lawrence as 1,000,000 h.p., we find a yearly non-use of water-power in Canada equivalent to 12,000,000 tons of coal due to non-storage of water.

## RAILROAD EARNINGS.

The following are the railroad earnings for the month of July:—

### Canadian Pacific Railway.

	1915.	1914.	
July 7	\$1,666,000	\$2,343,000	— \$677,000
July 14	1,635,000	2,285,000	— 650,000
July 21	1,670,000	2,232,000	— 562,000
July 31	2,476,000	3,181,000	— 705,000

### Grand Trunk Railway.

July 7	\$ 990,278	\$1,048,006	— \$ 57,728
July 14	989,629	1,072,872	— 83,243
July 21	980,898	1,010,895	— 29,997
July 31	1,537,141	1,592,244	— 55,103

### Canadian Northern Railway.

July 7	\$ 258,800	\$ 362,000	— \$103,200
July 14	279,100	375,000	— 95,000
July 21	277,100	378,000	— 101,800
July 31	391,100	478,400	— 87,300

## COAST TO COAST

**Calgary, Alta.**—It is expected that the new elevator which has been completed will be opened shortly.

**North Bay, Ont.**—The new government trunk road between North Bay and Sturgeon Falls is now open for traffic. The new road extends a distance of 23 miles and has taken over a year and a half to complete.

**Quebec, Que.**—The foundation stone of the new Union Station at the Palais has been laid by His Worship Mayor Drouin, and it is expected that by the New Year the new station will be in use.

**Vancouver, B.C.**—The new \$80,000 addition to the provincial courthouse in this city has now been completed and is ready for use. The architects were Messrs. Gardiner & Mercer, and the contractors, the Dominion Construction Co.

**Regina, Sask.**—With this year's construction programme completed last week, the city now has 67 $\frac{3}{4}$  miles of sewers laid within the city limits, including storm sewers and 73 $\frac{1}{4}$  miles of water mains, including the supply mains from Boggy Creek.

**Ottawa, Ont.**—So far this year 4.6 miles of concrete sidewalks have been laid in this city. Already passed by the council and yet to be constructed are 1.8 miles. It is estimated that this year's sidewalks will cost about 22 cents per square foot. Ottawa now has a total of 201 miles of concrete sidewalk.

**Vancouver, B.C.**—The contractors for the government jetty at the North Arm of the Fraser River expect to complete their contract this week and will then concentrate their efforts on the second unit of the main channel jetty, on which favorable progress has been made on account of the weather conditions.

**New Westminster, B.C.**—The city's new five-million-gallon storage reservoir, located adjacent to the present high level track, is now practically completed, and will provide an added safeguard against shortage on the upper levels of the city for fire protection purposes. The two reservoirs situated at the top of Eighth Avenue will have a storage capacity of over seven million gallons. These storage receptacles are fed from a 14-inch main, which delivers in the neighborhood of a million gallons every 24 hours, making the storage capacity equivalent to seven days' supply.

**London, Ont.**—The new syphon chamber on Riverside Avenue, where the city sewage is elevated on its way to the disposal plant, has been completed. The work was commenced about three months ago, and during the period of construction the sewage flowed into the river. The syphon is provided with a necessary valve for flow regulation and is expected to be the means of entirely eliminating a long-termed nuisance. Mr. Willis Chipman, Toronto, was consulting engineer to the city in connection with the installation.

**Toronto, Ont.**—Operations at the Don Valley section of the Bloor Street viaduct continue rapidly. The contractors state that they are now considerably ahead of schedule time. Concrete footings are now completed at pier "A," and also at pier "B." The first lift on con-